Case 1

- 21 yo white male, active duty Army
- Admitted to WRAMC w/ severe Fe deficiency anemia
- Hb 7.6 g/dl; hypochromic macrocytic anemia for 7 months
- Intermittent diarrhea, hypovolemia
- Born & raised in Michigan, trained at Ft. McClellan AL, stationed at Ft Drum NY
- Only travel was to Jungle Ops training center in Panama

Case 1

- While in Panama
  - Spent most of time in barracks area
  - Spent a few days sleeping out on sleeping mat, only removed blouse
  - Only contact with soil was hand to ground while standing up
  - Ground in training area ‘smelled of feces’
  - During training slipped into and climbed out of a deep hole with chest-deep water
  - Barracks infested with insects
- Two weeks following return home had non-bloody brown watery diarrhea for a week

Case 1

- Lab results
  - CBC: Hb 11.6 g/dl. WBC: 7625 Eos 24.1%, absolute eos 1900/cu mm (normal 0-700)
- Treated w/ mebendazole but non adherent
- Several months later, complained of increased fatigue, bloody stool, decreased energy.
- Hb 8.4 g/dl, MCV, MCH, MCHC decreased. WBC: 4430 Eos 21.2% (abs 900/cu mm)
- Iron 2 ug/dl (very low – normal 30-170 ug/dl)
- Stool negative for O & P

Case 1

- Month later referred to general surgeon
- Had WBC 8600 with 25% eos and abnormal RBC morphology
- Upper GI series suggested small duodenal ulcer, terminal ileitis, enlarged spleen
- On admission to WRAMC, history revealed night sweats, fatigue, shortness of breath, dizziness, 20# weight gain, low back pain, loose stools, anemia

Case 1

- Stool from bowel prep revealed hookworm
- Treated again with mebendazole, iron, multivits
- Single direct stool that’s negative isn’t conclusive
- Differentiate from strongyloidiasis

MSMR 2(6) 1996

Case 2

- 30 yo male
- Pain developed in left thigh while participating in Eco-Challenge 2000 race in Borneo
- Developed a 4x3-cm lump in thigh
- Initially attributed to a muscular tear but persisted for a year

Case 2

- Referred to the Hospital for Tropical Diseases.
- Ate a variety of things
- Magnetic resonance imaging of the thigh showed a lobulated lesion in the muscle surrounded by edema.

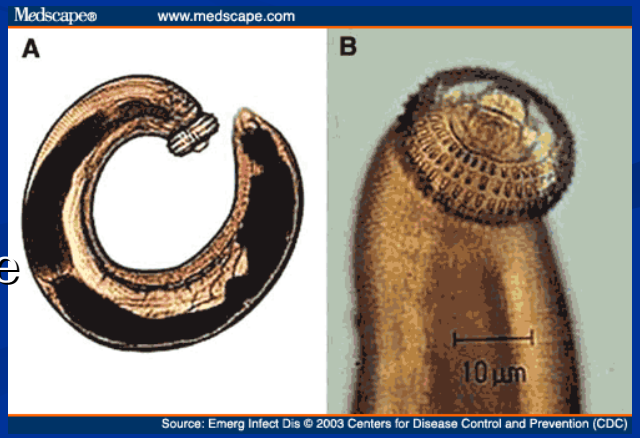
Case 2

- Serologic results were positive for *Gnathostoma*.
- Treatment with albendazole substantially reduced the size and firmness of the lesion but did not completely resolve it.
- Southeast Asia, Israel, Central and South America
- Acquired from ingesting raw or poorly cooked fish, fowl, amphibians, & rarely pork

Case 2

- Same as other LM syndromes
- Edema, hemorrhage, eosinophilic & plasma cell infiltrates, necrosis, granuloma formation
- Epigastric pain, nausea, vomiting, anorexia, pruritis, urticaria, fever, eosinophilia up to 90%
- Larvae can migrate 1cm/hr

CANTROPMED Tropical Disease Image Archive



Case 3

- Middle aged female born and raised in Guyana
- Described having milky to creamy urine for weeks at a time and had been occurring intermittently over many years
- Occasional discomfort on passing urine, sometimes a milky jelly-like consistency

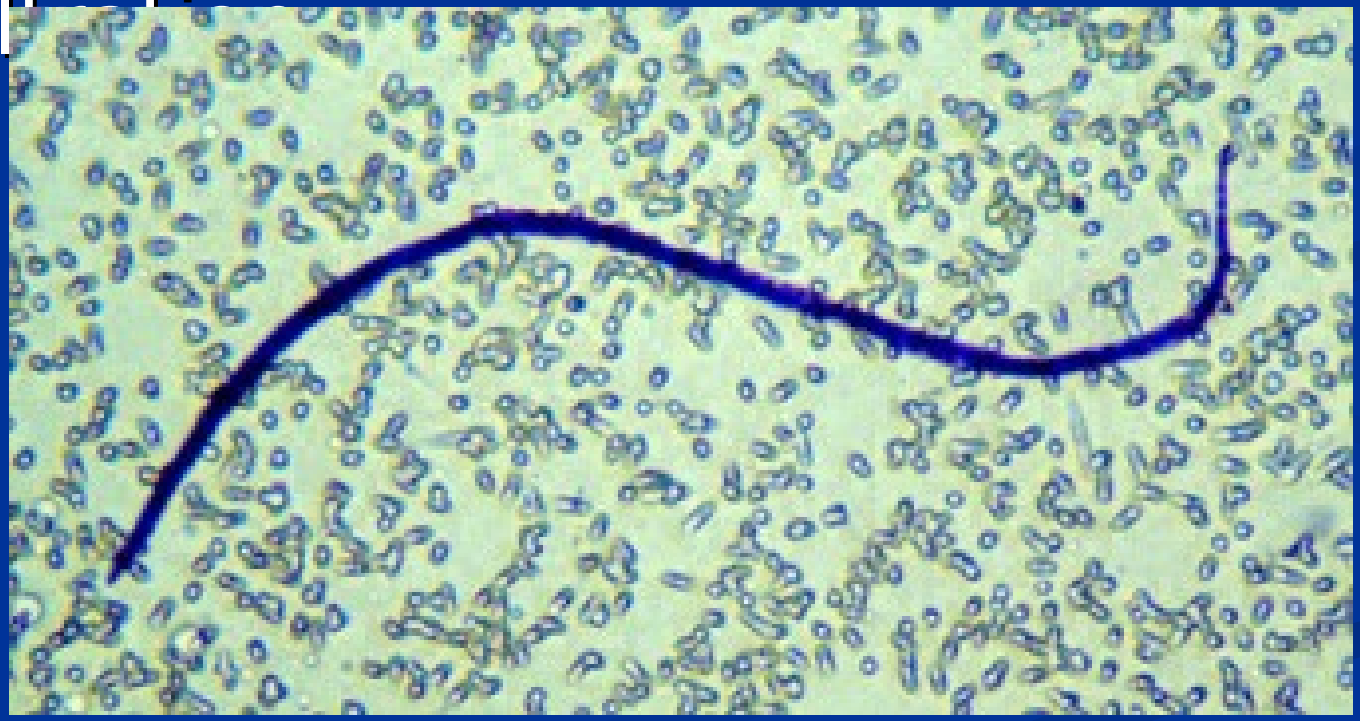
Case 3

- Lymphangiogram revealed multiple dilated lymphatic channels with tortuous collaterals
- Also noted was an anastamosis between the para-aortic and the renal lymphatic

CANTROPMED Tropical Disease Image Archive

Case 3

- Giemsa stained smear of peripheral blood passed through membrane fil



Case 4

- Male aged 2½ years with a history of iron deficiency anemia and pica was admitted to a Chicago hospital

- Low-grade fever for 8 days

Case 4

- Increasing lethargy, irritability, and ataxia during the 3 days preceding admission.

- Dx of encephalitis based on clinical presentation and lab findings on admission
  - Peripheral eosinophilia (28%)
  - CSF eosinophilic pleocytosis 32%
  - Diffuse slow waves on electroencephalogram

Case 4

- 24 hours after admission, patient lapsed into coma with opisthotonus and decerebrate posturing
- MRI revealed abnormalities in deep white matter of both cerebellar hemispheres.

Case 4

- On culture, serology, PCR testing of blood & CSF:
  - Herpes simplex, arbo and enteroviruses, lymphocytic choriomeningitis, measles, bacterial, & fungal ruled out
  - Toxocariasis & cysticercosis were excluded

Case 4

- Abs to *Baylisascaris* detected in CSF and serum by IFA
  - Titers increased several fold and reached high levels (1:1,024 in CSF; 1:4,096 in serum) 4 weeks following admission
- Child treated with albendazole & corticosteroids, but condition did not improve
- After 4 weeks of hospitalization, transferred to rehab center for several months. Sent home where he remained profoundly neurologically disabled and in need of continuous nursing care.

Case 4

- 18 days before admission, parents observed dirt on child's mouth after playing under trees in yard of Chicago suburb where raccoons are common
- Field study in Sept 2000 showed several sites of raccoon fecal contamination positive for BP eggs
- Viable BP eggs recovered from soil & debris at base of trees
- Mice experimentally infected with eggs developed fatal encephalitis from NLM.

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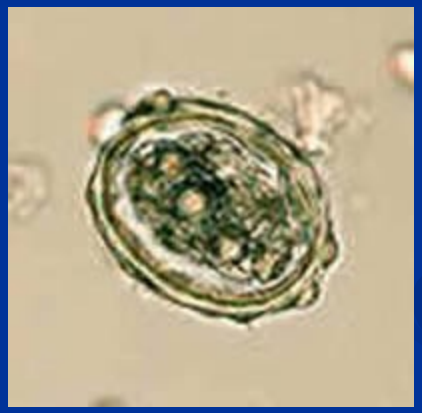
Case 5

- 36 yo female with travel history to Puerto Rico
- Intestinal complaints, loose stool
- Submitted routine stool specimen

Case 5

71x
44



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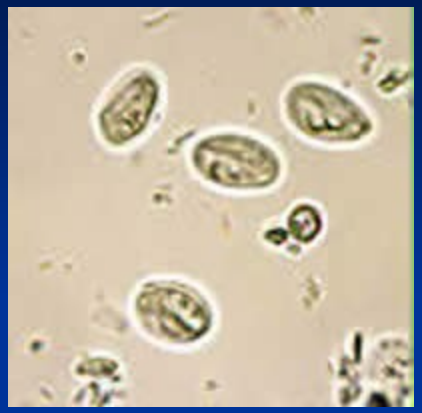

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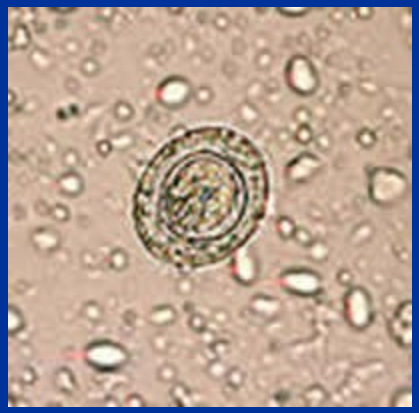

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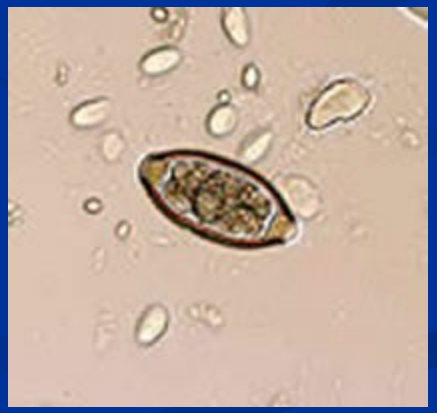
CDC’s DPDx



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Excellent image resources

- An Atlas of Medical Parasitology by Carlo Denegri
  - http://www.cdfound.to.it/default.htm
- CANTROPMED Tropical Disease Image Archive
  - http://www.medicine.mcgill.ca/tropmed/cantropmed/
- CDC's Parasite Image Library from Laboratory Identification of Parasites of Public Health Concern
  - http://www.dpd.cdc.gov/dpdx/HTML/Image_Library.htm
- Queensland University of Technology School of Life Sciences Parasitology Images List
  - http://www.life.sci.qut.edu.au/LIFESCI/darben/paramast.htm
- Parasites and Parasitological Resources
  - http://www.biosci.ohio-state.edu/~parasite/home.html
- WHO TDR Image Library
  - http://www.who.int/tdr/media/image.html

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